Inspection Report For Well: UT20736 - 04494

U.S. Environmental Protection Agency
Underground Injection Control Program, 8ENF-T
999 18th Street, Suite 300, Denver, CO 80202-2466

This form was printed on 9/24/2013

INSPECTOR(S): Lead: Roberts, Sarah — Date: 12/10/2013
Others: Ajayi, Christopher — Time: 2:04 am / (pm)

OPERATOR (only if different): _____

REPRESENTATIVE(S): Chad Stevinson

PRE-INSPECTION REVIEW

Petroglyph Operating Company, Inc

Well Name:	Ute Tribal 20-13		
Well Type:	Enhanced Recovery (2R)		
Operating Status:	AC (ACTIVE) as of 12/31/2002		
Oil Field:	Antelope Creek (Duchesne)		
Location:	SWSW S20 T5S R3W		
Indian Country:	X, Uintah and Ouray		
Last Inspection:	8/28/2012	***Allowable Inj Pressure:***	1974 /
Last MIT:	Pass 9/9/2010	***Annulus Pressure From Last MIT:***	1110

BLACK = POSSIBLE VIOLATION GREY = DATA MISSING

INSPECTION TYPE: (Select One)
- ☐ Construction / Workover
- ☐ Plugging
- ☐ Post-Closure
- ☐ Response to Complaint
- ☒ Routine
- ☐ Witness MIT
- ☐ Other

ICIS Entered
Date 12/31/13
Initials DB

OBSERVED VALUES:

Tubing Gauge:	☒ Yes ☐ No	Pressure: U: 1857 / L: _____ psig Gauge Range: Scada psig		Gauge Owner:	☐ EPA ☒ Operator
Annulus Gauge:	☒ Yes ☐ No	Pressure: 0 psig Gauge Range: opened psig		Gauge Owner:	☒ EPA ☐ Operator
Bradenhead Gauge:	☐ Yes ☐ No	Pressure: _____ psig Gauge Range: _____ psig		Gauge Owner:	☐ EPA ☐ Operator
Pump Gauge:	☐ Yes ☐ No	Pressure: _____ psig Gauge Range: _____ psig		Gauge Owner:	☐ EPA ☐ Operator
Operating Status: (Select One)	☐ Active ☐ Being Reworked	☒ Not Injecting ☐ Production	☐ Plugged and Abandoned ☐ Under Construction		

U2 Entered
Date 12/17/13
Initial

GREEN	BLUE	OB
AB	1	

See page 2 for photos, comments, and site conditions.

Inspection Report For Well: UT20736 - 04494 (PAGE 2)

PHOTOGRAPHS: ☐ Yes ☒ No List of photos taken: _____

Comments and site conditions observed during inspection: _____

GPS: GPS File ID: _____

Signature of EPA Inspector(s): _____ _____

☐ Data Entry ☐ Compliance Staff ☐ Hard Copy Filing

NOTICE OF INSPECTION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII, 999 18TH STREET - SUITE 500
DENVER, COLORADO 80202-2405

Date: 12/16/13
Hour: 8:00a

Notice of inspection is hereby given according to Section 1445(b) of the Safe Drinking Water Act (42 U.S.C. §300f et seq.).

Firm Name: Petroglyph Operating, Inc.

Firm Address: Roosevelt, UT, Antelope Creek Oil Field

REASON FOR INSPECTION:

For the purpose of inspecting records, files, papers, processes, controls and facilities, and obtaining samples to determine whether the person subject to an applicable underground injection control program has acted or is acting in compliance with the Safe Drinking Water Act and any applicable condition of permit or rule authorization.

SECTION 1445(b) of the SAFE DRINKING WATER ACT is quoted below:

Section 1445(b)(1): Except as provided in Paragraph (2), the Administrator, or representatives of the Administrator duly designated by him, upon presenting appropriate credentials, and a written notice to any supplier of water or other person subject to (a), or person subject (A) a national primary drinking water regulation prescribed under Section 1412(B) an applicable Underground Injection Control Program, or (C) any requirement to monitor an unregulated contaminant pursuant to subsection (a), or person in charge of any of the property of such supplier or other person referred to in clause (A), (B), or (C), is authorized to enter any establishment, ... facility, or other property of such supplier or other person in order to determine whether such supplier or other person has acted or is acting in compliance with this title, including for this purpose, inspection, at reasonable times, of records, files, papers, processes, controls, and facilities, or in order to test any feature of a public water system, including its raw water source. The Administrator or the Comptroller General (or any representative designated by either) shall have access for the purpose of audit and examination to any records, reports, or information of a grantee which are required to be maintained under subsection (a) or which are pertinent to any financial assistance under this title.

Sarah Roberts
Inspector's Name & Title (Print)

Inspector's Signature

EPA R8 3560-1 (8-89)

Original - Regional Office Copy
Yellow Copy - Operator Copy

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466

NOV 17 2000

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

Re: AUTHORIZATION TO COMMENCE INJECTION
Ute Tribal #20-13 (UT04494)
Antelope Creek Field
EPA AREA PERMIT UT2736-00000
Duchesne County, Utah

Dear Mr. Safford:

Thank you for submitting information pertaining to Ute Tribal #20-13 to the Environmental Protection Agency (EPA) Region VIII Groundwater Program. Requirements of UIC Area Permit UT2736-00000 Part II Sections (C)(2) "Prior To Commencing Injection" required submittal of the following information:

1. Well Rework Record (*EPA Form 7520-12*) with after conversion well schematic; and

2. successfully run Mechanical Integrity Test (MIT) with pressure chart; and

3. run injection zone fluid pore pressure survey.

All required information has been submitted, and has been reviewed and approved by the EPA. Petroglyph has complied with all pertinent conditions of UIC Area Permit UT2736-00000 Part II Section (C)(2). Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal #20-13 under the conditions of UIC Permit Modification for Conversion of Additional Well to Area Permit UT2736-00000, dated June 9,1999. The Director has determined, according to Part II, A. (Well Conversion/Construction Requirements), 5. (Injection Pressure Limitation) that the **maximum surface injection pressure for the Ute Tribal #20-13 shall not exceed 1974 psig.**

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Please be reminded that it is the responsibility of the permittee to be aware of, and to comply with, all conditions of the Permit. Effective upon receipt of this letter, EPA administration of this well is transferred to Mr. Al Craver, Compliance Officer in the Office of Enforcement, Compliance, and Environmental Justice Technical Enforcement Program, who is your point of contact for routine compliance matters and reports.

Please send all reporting forms and other required correspondence to Mr. Craver at the address listed below, referencing **EPA WELL ID: UT04494** on all reports and correspondence.

Mr. Al Craver,
Technical Enforcement Program, Mail Code 8ENF-T
U.S. Environmental Protection Agency
999 18th Street, Suite 300
Denver, Colorado, USA, 80202-2466

If you have any questions concerning this authorization or the Permit, please contact Mr. Dan Jackson of my staff at 303.312.6155 or Mr. Craver at 303.312.7821.

Sincerely,

D. Edwin Hogle
Director
Ground Water Program

cc: Mr. Ronald McCook, Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Mr. Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Gil Hunt
State of Utah Natural Resources
Division of Oil, Gas, and Mining

Mr. Jerry Kenczka
BLM - Vernal District Office

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 500
DENVER, CO 80202-2466

JUN 9 1999

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Deanna Bell
Operations Coordinator
Petroglyph Operating Company, Inc.
4116 W. 3000 S
P. O. Box 607
Roosevelt, UT 84066

RE: **UIC PERMIT AUTHORIZATION for Conversion of Additional Well to**
Antelope Creek Waterflood
EPA Area Permit UT2736-00000
Duchesne County, Utah

Dear Ms. Bell:

Your request of September 24, 1998, that the following production well be converted to a Class II enhanced oil recovery well and added to the Antelope Creek Waterflood, as authorized under EPA Area Permit #UT2736-00000 and under the provisions of 40 CFR Part 144.33 has been reviewed. The additional well is described as:

NAME	LOCATION	EPA WELL PERMIT NO.
Ute Tribal #20-13	*SW SW Section 20 T 5 S - R 3 W Duchesne County, UT*	*#UT2736-04494*

This additional well is within the boundary of the existing area permit for the Antelope Creek Waterflood (UT2736-00000) and this addition is made according to the terms and conditions of that permit, unless specifically detailed below. The information provided with your request, The proposed well location, well schematic, conversion procedures with/schematic, plugging and abandonment plan with/schematic, Cement Bond Log (CBL), and Financial Responsibility Demonstration, have been reviewed and approved as follows:

UNDERGROUND SOURCES OF DRINKING WATER (USDWs): The base of the USDWs in the Ute Tribal #20-13 is approximately 1,280 feet below ground level and is located within the Uinta Formation. The source for this USDW information is formation water analyses submitted by the operator for twenty-two (22) wells within the initial AOR, and information from Publication No. 92 (1987), prepared jointly by the USGS and the Utah Division of Oil, Gas, and Mining.

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CONFINING ZONE: The overall confining strata above the top perforated injection zones (4,416 feet) to 1,280 feet (base of Uinta Formation) consist of impermeable Upper Green River Formation calcareous shales and continuous beds of microcrystalline dolomite, and is considered adequate to limit fluid movement above the injection zone.

PART II.

A. Well Conversion/Construction Requirements

1. Casing and Cementing. The proposed conversion plan for this production well, submitted with this application, is hereby approved by the Director. (See enclosed conversion schematic and workover procedure).

2. Requirements for Additional Wells.

(a) Surface Casing: 8-5/8 inch casing is set at 283 feet in a 12-1/4 inch hole using 165 sacks of cement and cemented to the surface.

(b) Production Casing: 5-1/2 inch casing is set at 6136 feet in a 7-7/8 inch hole, cemented with 485 sacks cement. Top of cement is estimated at 2450 feet by cement bond log (CBL). Top of perforated interval is 4416 feet.

(c) Formation Logging and Testing: Upon conversion of the Ute Tribal #20-13 the permittee is required to determine and submit to the EPA the **injection zone fluid pore pressure (static bottom hole pressure)** prior to commencement of enhanced recovery injection operations.

(d) Area of Review (AOR) Within the 1/4-mile area of review there are three (3) production wells. The annulus cement ranges from 1380 to 2634 feet above the top perforations and is so located as to confine the injectate to the authorized interval. No remedial action is required for these wells.

(3) Tubing and Packer: The injection well will be equipped with 2-3/8 inch tubing, with a packer set 4340 feet.

PART II.

A. CORRECTIVE ACTION

The operator is not required to take any corrective action on any of the three (3) production wells within the AOR. The manner in which the wells are cased and cemented (annulus cement ranges from 1380 to 2634 feet above the top perforations) will prevent any migration of fluids from the injection zones into USDWs in the Uinta Formation (base at 1280 feet). If, as a result of injection into the Ute Tribal #20-13, upward fluid migration occurs behind the casings of any wells "serviced" by the Ute Tribal #20-13, injection into that/those well(s) shall immediately halt. No further injection will be allowed until the proper remedial work has been performed, and has been approved by the EPA. Any such flowage will be considered as noncompliance with the Area Permit.

B. WELL OPERATION

2. Prior to Commencing Injection (Additional Wells). **Prior to commencing injection into this well,** permittee must fulfill permit condition Part II, C. 2. and have submitted to the EPA, for review and approval, the following:

   (a) All conversion is complete and the permittee has submitted a completed **Well Rework Record (EPA Form 7520-12)** or **Well Completion Report (EPA Form 7520-10)** with after conversion wellbore diagram; and,

   (b) the **injection zone pore pressure has been determined; and,**

   (c) the well has successfully completed and passed a **mechanical integrity test (MIT), with pressure chart (MIT Guidance enclosed).**

4. Injection Interval. Fluid injection shall be limited to the gross interval within the Green River Formation between the approximate depths of 4,416 to 5,938 feet. Petroglyph proposes to inject water into multiple lenticular sands which are distributed throughout a 1,522 foot section of the Green River Formation. These sands are individually separated by shales which act as isolated barriers (confining zones) for the waterflood sections.

5. Injection Pressure Limitation. **Maximum injection pressure (Pmax)** - the permittee shall limit the maximum surface injection pressure (Pmax) to **1974 psig. The operator may request an increase or decrease in the injection pressure based on valid step rate test (SRT) data and or other parameters reflecting actual injection operations, pursuant to Part II, Section C. 5. of the original permit.**

The calculations for the fracture gradient was estimated from instantaneous shut-in pressures (ISIP's) observed during fracturing treatments performed on individually fractured zones within the four (4) initial wells establishing the Antelope Creek Field Area Permit. Based on this information, an initial maximum injection pressure, using 0.88 psi/ft fracture gradient (Fg) has been established for this area permit and wells. This Fg is acceptable and the initial maximum allowable surface injection pressure (Pmax) for this well has been determined as shown below:

Pmax = [Fg - 0.433 (Sg)] d

Where: Pmax = Maximum surface injection pressure at wellhead

d = 4416' shallowest perforations after conversion

Sg = Specific gravity of injected water

Pmax = [0.88 - .433 (1.00)] 4416

Pmax = 1974 psig

E. Plugging and Abandonment. The plugging and abandonment plan and schematic (see enclosed plugging and abandonment procedure and schematic), submitted with this application, has been reviewed and approved. The EPA reserves the right to change the manner in which the well will be plugged if the well is not made consistent with EPA requirements for construction and mechanical integrity.

F. Financial Responsibility.
The operator has chosen to demonstrate financial responsibility through a Surety Performance Bond in the amount of $15,000 per well, as amended and submitted by Bond Rider NO. 13., signed sealed and dated the 25th day of September, 1998.

Please be aware that Petroglyph will not have authorization to begin injection into the Ute Tribal #20-13 until the items listed above have been approved by the EPA and Petroglyph has received **written authorization** to begin injection from the EPA.

All other provisions and conditions of Area Permit UT2736-00000 remain as originally issued July 12, 1994, and modified April 30, 1998.

If you have any questions, please contact Mr. Chuck Williams at 303-312-6625. Also, please direct the above requirements to Mr. Williams at the above letterhead address, citing **MAIL CODE 8P-W-GW**. Thank you for your continued cooperation.

Sincerely,

for Kerrigan G. Clough
Assistant Regional Administrator
Office of Partnerships and
Regulatory Assistance

Enclosures: Before Conversion Schematic
Guidance for Conducting a Pressure Test to Determine if a Well Has Leaks in the Tubing, Casing or Packer
Plugging and Abandonment Schematic

cc: Mr. Ronald Wopsock, Chairman
Ute Indian Tribe

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Jerry Kenczka
BLM - Vernal District Office

Mr. Gilbert Hunt
State of Utah Natural Resources
Division of Oil, Gas & Mining

OMB No. 2040-0042 Approval Expires 11/30/2014

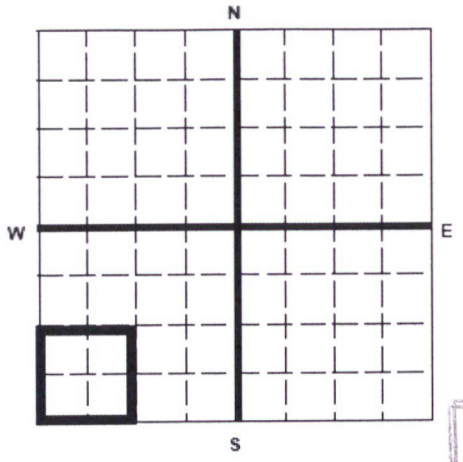
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah, 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-04494

Surface Location Description
___ 1/4 of ___ 1/4 of SW 1/4 of SW 1/4 of Section 20 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 700 ft. frm (N/S) S Line of quarter section
and 700 ft. from (E/W) W Line of quarter section.

U2 Entered
Date 4/4/17
Initial JB

WELL ACTIVITY	TYPE OF PERMIT
[ ] Brine Disposal	[ ] Individual
[X] Enhanced Recovery	[X] Area
[ ] Hydrocarbon Storage	Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 20-13

GREEN BLUE CBL TAB 2

MONTH	YEAR	INJECTION PRESSURE AVERAGE PSIG	INJECTION PRESSURE MAXIMUM PSIG	TOTAL VOLUME INJECTED BBL	TOTAL VOLUME INJECTED MCF	TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MINIMUM PSIG	TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING) MAXIMUM PSIG
January	16	1782	1846	52		0	0
February	16	1798	1906	149		0	0
March	16	1786	1917	28		0	0
April	16	1832	1852	94		0	0
May	16	1686	1892	107		0	0
June	16	1815	1905	71		0	0
July	16	1832	1878	57		0	0
August	16	1818	1879	23		0	0
September	16	1716	1852	33		0	0
October	16	1793	1875	88		0	0
November	16	1770	1837	77		0	0
December	16	1814	1834	169		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		03/21/2017

EPA Form 7520-11 (Rev. 12-11)

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

multi-chem
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Units of Measurement: **Standard**

Water Analysis Report

Production Company:	**PETROGLYPH OPERATING CO INC - EBUS**	Sales Rep:	**James Patry**
Well Name:	**UTE TRIBAL 20-13 INJ, DUCHESNE**	Lab Tech:	**Kaitlyn Natelli**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2017**		
Sample ID:	**WA-345331**		

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics

Test Date:	**1/25/2017**
System Temperature 1 (°F):	**300**
System Pressure 1 (psig):	**2000**
System Temperature 2 (°F):	**130**
System Pressure 2 (psig):	**50**
Calculated Density (g/ml):	**1.0042**
pH:	**8.40**
Calculated TDS (mg/L):	**10057.57**
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	**0.00**
H_2S in Gas (%):	
H2S in Water (mg/L):	**15.00**
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	**0.00**
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	**3429.09**	Chloride (Cl):	**4000.00**
Potassium (K):	**25.30**	Sulfate (SO_4):	**50.00**
Magnesium (Mg):	**12.94**	Bicarbonate (HCO_3):	**2440.00**
Calcium (Ca):	**29.07**	Carbonate (CO_3):	
Strontium (Sr):	**5.06**	Hydroxide(HO):	
Barium (Ba):	**2.60**	Acetic Acid (CH_3COO)	
Iron (Fe):	**34.89**	Propionic Acid (C_2H_5COO)	
Zinc (Zn):	**3.96**	Butanoic Acid (C_3H_7COO)	
Lead (Pb):	**0.00**	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Ammonia NH_3:		Fluoride (F):	
Manganese (Mn):	**0.32**	Bromine (Br):	
Aluminum (Al):	**0.53**	Silica (SiO_2):	**24.34**
Lithium (Li):	**3.05**	Calcium Carbonate ($CaCO_3$):	
Boron (B):	**4.73**	Phosphates (PO_4):	**7.02**
Silicon (Si):	**11.38**	Oxygen (O_2):	

Notes:

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	1.48	24.11	0.41	0.94	4.72	13.59	3.71	25.36	0.00	0.00	0.00	0.00	0.00	0.00	11.26	2.07
149.00	267.00	1.54	24.28	0.32	0.79	4.66	13.59	3.80	25.37	0.00	0.00	0.00	0.00	0.00	0.00	10.99	2.07
168.00	483.00	1.61	24.47	0.24	0.65	4.63	13.59	3.89	25.37	0.00	0.00	0.00	0.00	0.00	0.00	10.77	2.07
187.00	700.00	1.69	24.65	0.18	0.53	4.63	13.59	3.98	25.37	0.00	0.00	0.00	0.00	0.00	0.00	10.57	2.07
206.00	917.00	1.78	24.81	0.14	0.42	4.64	13.59	4.07	25.37	0.00	0.00	0.00	0.00	0.00	0.00	10.40	2.07
224.00	1133.00	1.88	24.95	0.12	0.35	4.68	13.59	4.15	25.37	0.00	0.00	0.00	0.00	0.00	0.00	10.25	2.07
243.00	1350.00	1.98	25.06	0.10	0.32	4.73	13.59	4.23	25.37	0.00	0.00	0.00	0.00	0.00	0.00	10.12	2.07
262.00	1567.00	2.10	25.16	0.10	0.30	4.79	13.59	4.30	25.37	0.00	0.00	0.00	0.00	0.00	0.00	10.02	2.07
281.00	1783.00	2.21	25.23	0.10	0.31	4.87	13.59	4.37	25.37	0.00	0.00	0.00	0.00	0.00	0.00	9.92	2.07
300.00	2000.00	2.33	25.29	0.11	0.34	4.96	13.59	4.43	25.37	0.00	0.00	0.00	0.00	0.00	0.00	9.84	2.07

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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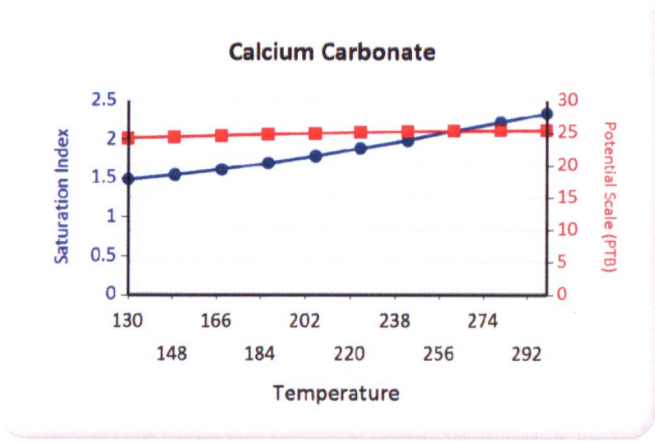
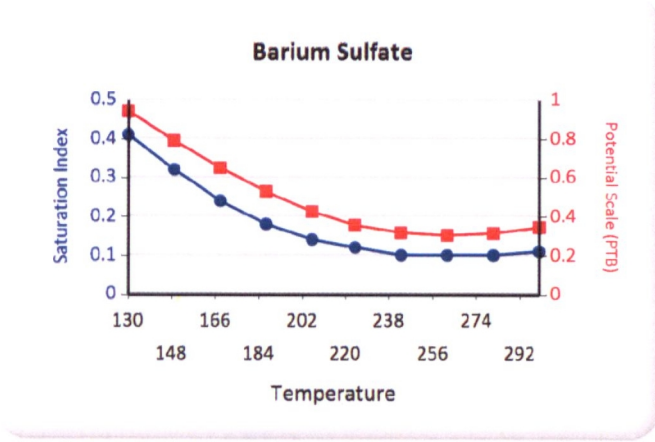
Water Analysis Report

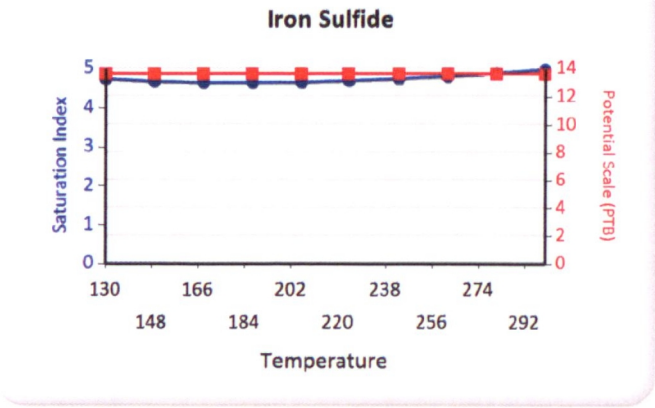
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	2.34	2.65	0.00	0.00	3.42	19.59	1.80	15.98	12.81	27.13
149.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	2.55	2.65	0.00	0.00	4.15	21.78	2.19	18.77	13.24	27.13
168.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	2.74	2.66	0.00	0.00	4.91	23.49	2.61	21.84	13.74	27.13
187.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	2.91	2.66	0.00	0.00	5.67	24.56	3.04	24.64	14.26	27.13
206.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	3.07	2.66	0.00	0.00	6.42	25.17	3.46	27.07	14.78	27.13
224.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	3.21	2.66	0.00	0.00	7.15	25.49	3.89	29.01	15.31	27.14
243.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	3.33	2.66	0.00	0.00	7.87	25.66	4.31	30.45	15.84	27.14
262.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	3.44	2.66	0.00	0.00	8.58	25.75	4.72	31.43	16.36	27.14
281.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	3.53	2.66	0.00	0.00	9.25	25.80	5.12	32.04	16.88	27.14
300.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	3.61	2.66	0.00	0.00	9.90	25.82	5.51	32.41	17.38	27.14

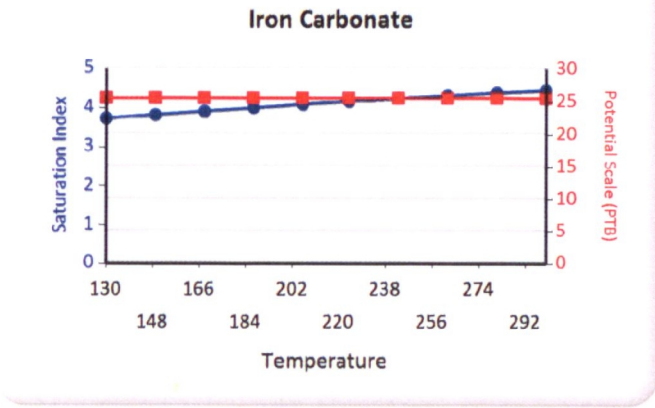
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

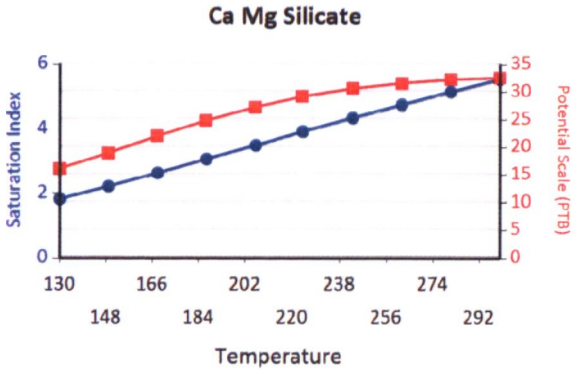
These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

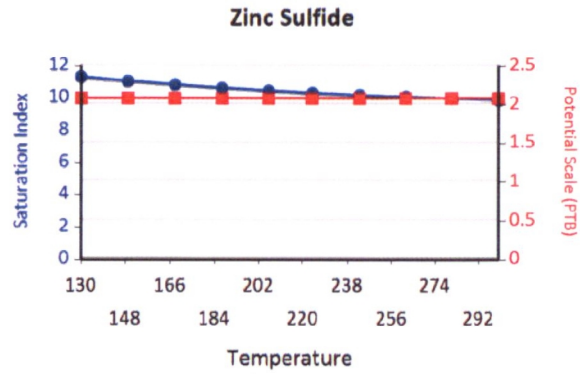









Ca Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
130
148
166
184
202
220
238
256
274
292


Zinc Sulfide
Saturation Index
Potential Scale (PTB)
Temperature
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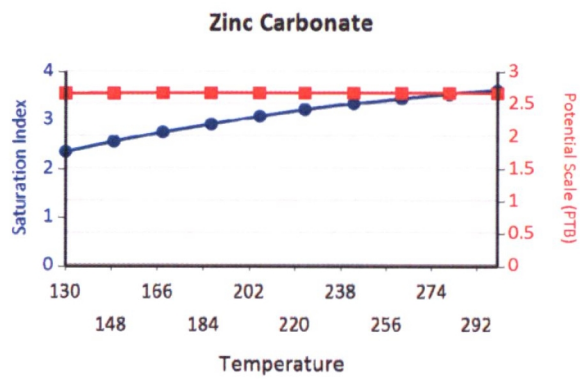
Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
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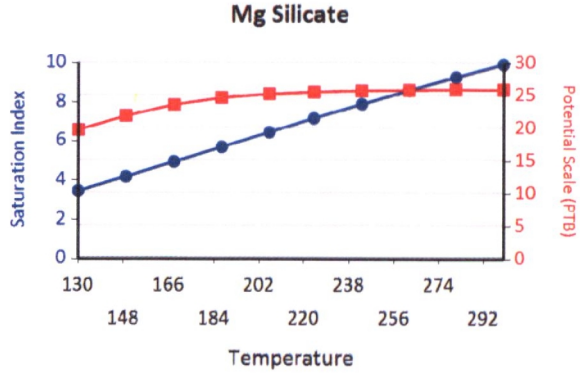
Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
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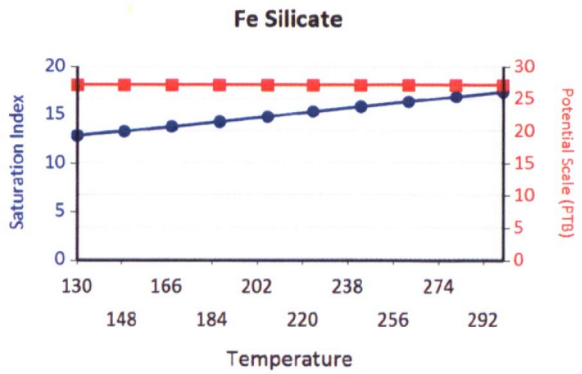
Water Analysis Report



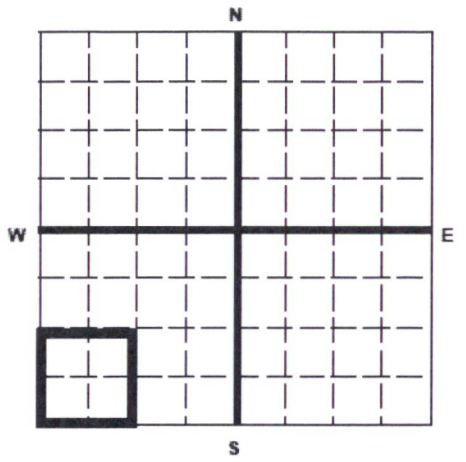
OMB No. 2040-0042 Approval Expires 11/30/2014

United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee	Name and Address of Surface Owner
Petroglyph Operating Company, Inc. 2258 P.O. Box 7608 Boise, Idaho 83709	Ute Indian Tribe P.O. Box 70 Ft. Duchesne, Utah, 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State: Utah | County: Duchesne | Permit Number: UT2736-~~04434~~ 04494

Surface Location Description

___ 1/4 of ___ 1/4 of SW 1/4 of SW 1/4 of Section 20 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 700 ft. frm (N/S) S Line of quarter section and 700 ft. from (E/W) W Line of quarter section.

U2 Entered Date 3/2/16 Initial DB

WELL ACTIVITY
- [ ] Brine Disposal
- [X] Enhanced Recovery
- [ ] Hydrocarbon Storage

TYPE OF PERMIT
- [ ] Individual
- [X] Area

Number of Wells 111

Lease Name: Ute Indian Tribe | Well Number: UTE TRIBAL 20-13

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING – CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	15	1758	1772	176		0	0
February	15	1810	1857	162		0	0
March	15	1834	1873	192		0	0
April	15	1768	1868	141		0	0
May	15	1741	1851	139		0	0
June	15	1799	1864	487		0	0
July	15	1848	1873	452		0	0
August	15	1823	1858	217		0	0
September	15	1810	1864	113		0	0
October	15	1821	1854	174		0	0
November	15	1828	1860	130		0	0
December	15	1831	1889	47		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		02/08/2016

EPA Form 7520-11 (Rev. 12-11)

TAB | GREEN | BLUE | ODI
2

Multi-Chem Analytical Laboratory
1553 East Highway 40
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Units of Measurement: **Standard**

Water Analysis Report

Production Company:	**PETROGLYPH OPERATING CO INC - EBUS**	Sales Rep:	**James Patry**
Well Name:	**UTE TRIBAL 20-13 INJ, DUCHESNE**	Lab Tech:	**Michele Pike**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2016**		
Sample ID:	**WA-327665**		

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics

Test Date:	1/13/2016
System Temperature 1 (°F):	60
System Pressure 1 (psig):	2000
System Temperature 2 (°F):	180
System Pressure 2 (psig):	50
Calculated Density (g/ml):	1.0073
pH:	8.30
Calculated TDS (mg/L):	14429.16
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	0.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	5129.75	Chloride (Cl):	7000.00
Potassium (K):	21.10	Sulfate (SO_4):	260.00
Magnesium (Mg):	43.53	Bicarbonate (HCO_3):	1830.00
Calcium (Ca):	106.34	Carbonate (CO_3):	
Strontium (Sr):	5.96	Acetic Acid (CH_3COO)	
Barium (Ba):	6.13	Propionic Acid (C_2H_5COO)	
Iron (Fe):	0.90	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.72	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.80	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.06	Silica (SiO_2):	23.87
Aluminum (Al):	0.02	Calcium Carbonate ($CaCO_3$):	
Lithium (Li):	1.37	Phosphates (PO_4):	7.65
Boron (B):	2.80	Oxygen (O_2):	
Silicon (Si):	11.16		

Notes:

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum $CaSO4{\cdot}2H2O$		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	1.97	86.52	1.13	3.38	0.00	0.00	2.03	0.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.00	267.00	1.88	83.99	1.16	3.39	0.00	0.00	1.92	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	483.00	1.81	81.99	1.19	3.41	0.00	0.00	1.83	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	700.00	1.74	79.79	1.23	3.43	0.00	0.00	1.74	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.00	917.00	1.68	77.42	1.28	3.46	0.00	0.00	1.65	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	1133.00	1.63	74.94	1.35	3.48	0.00	0.00	1.56	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	1350.00	1.57	72.40	1.43	3.51	0.00	0.00	1.47	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.00	1567.00	1.53	69.89	1.52	3.54	0.00	0.00	1.37	0.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	1783.00	1.48	67.44	1.63	3.56	0.00	0.00	1.28	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	2000.00	1.45	65.12	1.76	3.59	0.00	0.00	1.19	0.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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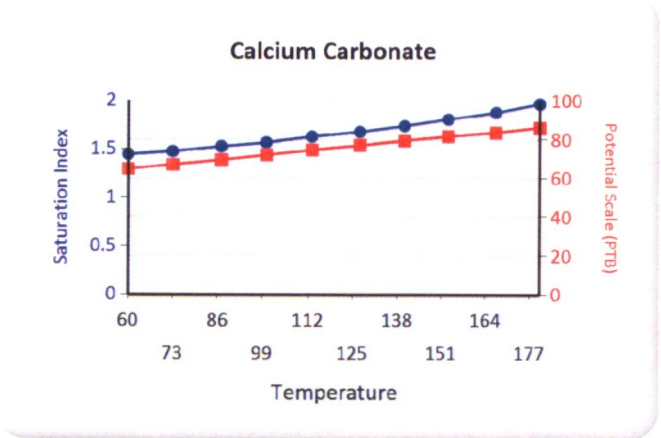
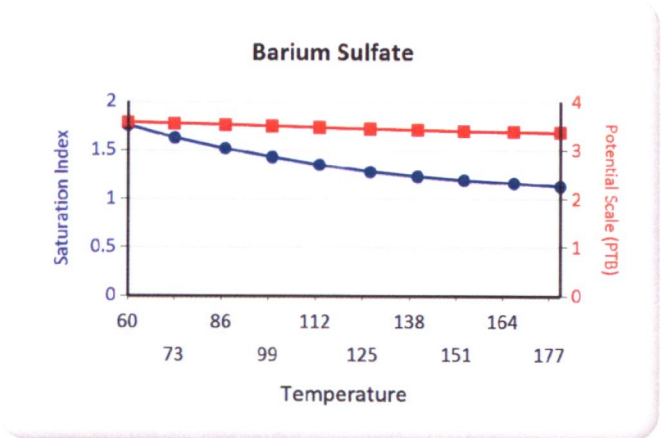
Water Analysis Report

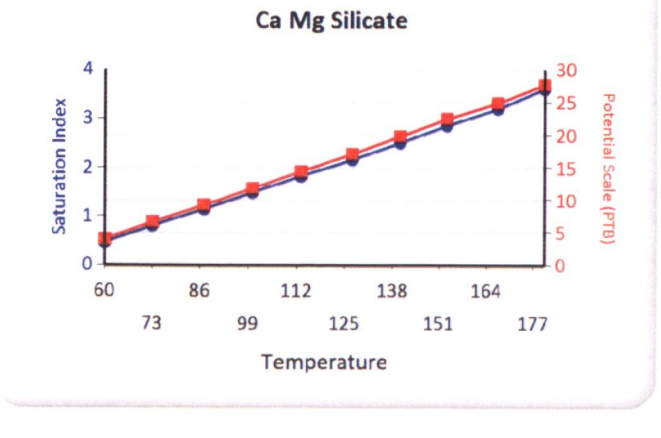
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.80	0.48	0.00	0.00	6.40	51.32	3.61	27.80	8.50	0.70
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.65	0.47	0.00	0.00	5.71	44.49	3.20	24.98	7.98	0.70
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.47	0.00	0.00	5.11	39.19	2.86	22.55	7.56	0.70
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34	0.46	0.00	0.00	4.51	33.87	2.51	19.94	7.14	0.70
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17	0.45	0.00	0.00	3.90	28.73	2.17	17.25	6.73	0.70
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.43	0.00	0.00	3.29	23.87	1.83	14.57	6.33	0.69
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.41	0.00	0.00	2.68	19.29	1.49	11.94	5.94	0.69
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.36	0.00	0.00	2.06	14.91	1.15	9.34	5.55	0.69
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.29	0.00	0.00	1.44	10.61	0.81	6.75	5.17	0.69
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.15	0.00	0.00	0.81	6.22	0.47	4.10	4.79	0.68

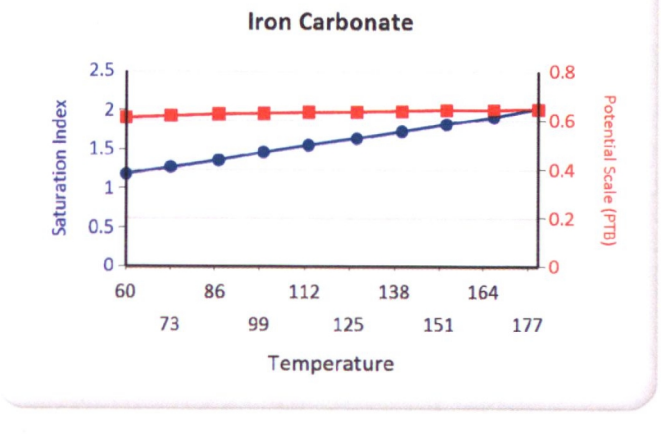
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate









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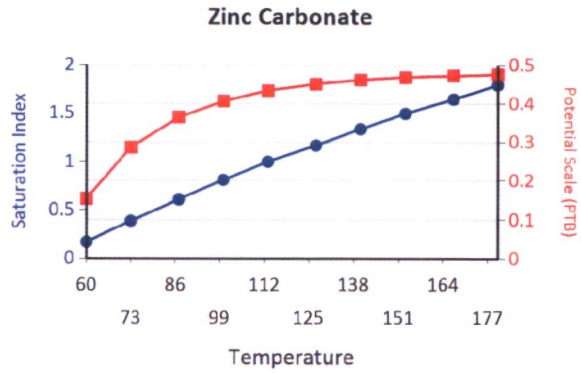
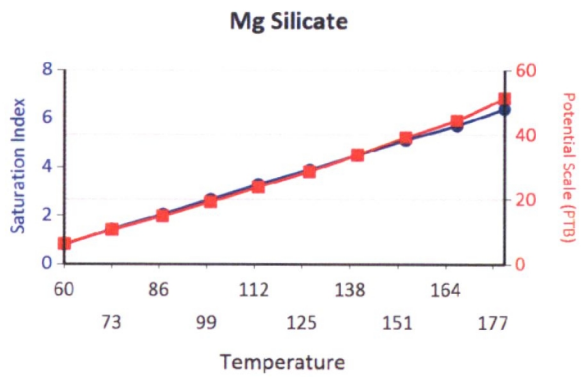
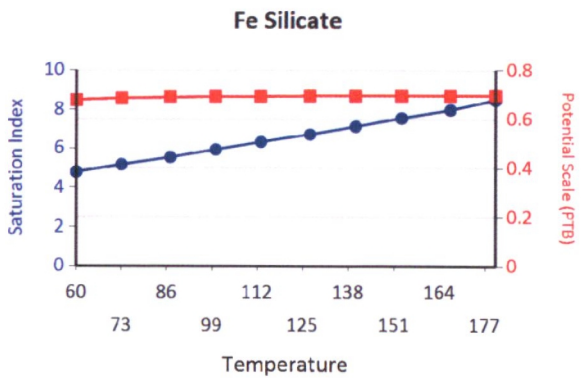
Water Analysis Report







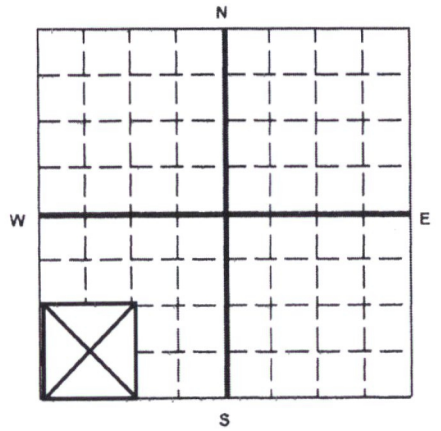
OMB No. 2040-0042 Approval Expires 12/31/2011

United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee	Name and Address of Surface Owner
Petroglyph Operating Company, Inc. 2258 P.O. Box 7608 Boise, Idaho 83709	Ute Indian Tribe P.O. Box 70 Ft. Duchesne, Utah 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-04494

Surface Location Description

___ 1/4 of ___ 1/4 of SW 1/4 of SW 1/4 of Section 20 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 700 ft. frm (N/S) S Line of quarter section and 700 ft. from (E/W) W Line of quarter section.

WELL ACTIVITY	TYPE OF PERMIT
☐ Brine Disposal	☐ Individual
☒ Enhanced Recovery	☒ Area
☐ Hydrocarbon Storage	Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 20-13

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	14	1889	1933	204		0	0
February	14	1893	1917	171		0	0
March	14	1875	1892	442		0	0
April	14	1902	1921	734		0	0
May	14	1871	1896	433		0	0
June	14	1885	1909	403		0	0
July	14	1839	1903	284		0	0
August	14	1864	1882	260		0	0
September	14	1764	1872	257		0	0
October	14	1872	1874	305		0	0
November	14	1877	1883	320		0	0
December	14	1857	1881	254		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		2/10/2015

EPA Form 7520-11 (Rev. 12-08)

U2 Entered
Date 3/30/15
Initial GW

TAB	GREEN	BLUE	CBI
		2	

Multi-Chem Analytical Laboratory
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Units of Measurement: **Standard**

Water Analysis Report

Production Company: **PETROGLYPH OPERATING CO INC - EBUS**
Well Name: **UTE TRIBAL 20-13 INJ, DUCHESNE**
Sample Point: **WELLHEAD**
Sample Date: **1/7/2015**
Sample ID: **WA-297461**

Sales Rep: **James Patry**
Lab Tech: **Gary Winegar**

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics	
Test Date:	1/14/2015
System Temperature 1 (°F):	160
System Pressure 1 (psig):	1300
System Temperature 2 (°F):	80
System Pressure 2 (psig):	15
Calculated Density (g/ml):	1.0010
pH:	8.10
Calculated TDS (mg/L):	5381.61
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	10.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	1700.31	Chloride (Cl):	2000.00
Potassium (K):	35.30	Sulfate (SO_4):	238.00
Magnesium (Mg):	51.89	Bicarbonate (HCO_3):	1226.00
Calcium (Ca):	93.36	Carbonate (CO_3):	
Strontium (Sr):	5.10	Acetic Acid (CH_3COO)	
Barium (Ba):	5.99	Propionic Acid (C_2H_5COO)	
Iron (Fe):	0.83	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.15	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.08	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.08	Silica (SiO_2):	24.52

Notes:
B=3.62 Al=.04 Li=.86

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	1.42	58.44	2.02	3.53	2.88	0.46	1.23	0.57	0.00	0.00	0.00	0.00	0.00	0.00	10.31	0.08
88.00	157.00	1.40	56.35	1.93	3.53	2.77	0.46	1.24	0.57	0.00	0.00	0.00	0.00	0.00	0.00	10.10	0.08
97.00	300.00	1.42	57.50	1.86	3.52	2.72	0.46	1.29	0.57	0.00	0.00	0.00	0.00	0.00	0.00	9.95	0.08
106.00	443.00	1.44	58.72	1.79	3.51	2.68	0.46	1.34	0.57	0.00	0.00	0.00	0.00	0.00	0.00	9.80	0.08
115.00	585.00	1.47	60.00	1.72	3.50	2.64	0.46	1.40	0.58	0.00	0.00	0.00	0.00	0.00	0.00	9.67	0.08
124.00	728.00	1.50	61.31	1.66	3.49	2.62	0.46	1.45	0.58	0.00	0.00	0.00	0.00	0.00	0.00	9.54	0.08
133.00	871.00	1.53	62.65	1.61	3.48	2.60	0.46	1.50	0.59	0.00	0.00	0.00	0.00	0.00	0.00	9.42	0.08
142.00	1014.00	1.56	63.99	1.57	3.47	2.58	0.46	1.55	0.59	0.00	0.00	0.00	0.00	0.00	0.00	9.31	0.08
151.00	1157.00	1.59	65.34	1.53	3.46	2.58	0.46	1.60	0.59	0.00	0.00	0.00	0.00	0.00	0.00	9.21	0.08
160.00	1300.00	1.63	66.67	1.49	3.45	2.57	0.46	1.65	0.59	0.00	0.00	0.00	0.00	0.00	0.00	9.12	0.08

		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.31	0.03	0.92	4.41	0.13	0.73	4.18	0.62
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.99	0.03	1.06	4.77	0.17	0.88	4.16	0.62
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	11.73	0.03	1.47	6.75	0.39	1.92	4.41	0.62
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.03	11.48	0.03	1.89	8.88	0.62	3.01	4.67	0.63
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.05	11.25	0.03	2.31	11.16	0.85	4.16	4.95	0.63
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.06	11.03	0.03	2.74	13.55	1.09	5.34	5.23	0.63
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.07	10.83	0.03	3.18	16.04	1.34	6.54	5.53	0.63
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.08	10.64	0.03	3.61	18.54	1.59	7.75	5.83	0.64
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.08	10.45	0.03	4.05	20.96	1.84	8.92	6.13	0.64
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	0.08	10.28	0.03	4.49	23.20	2.09	10.04	6.45	0.64

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Vernal, UT 84078

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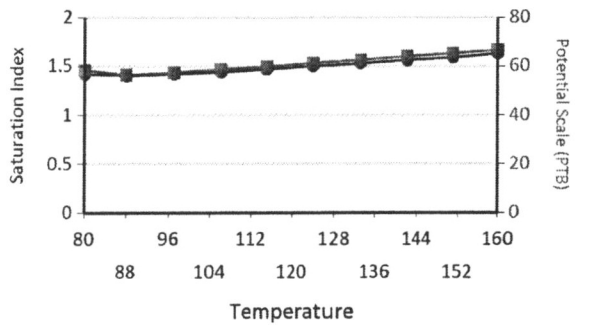
Water Analysis Report

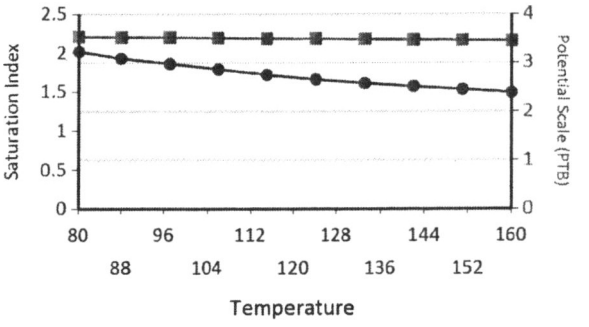
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

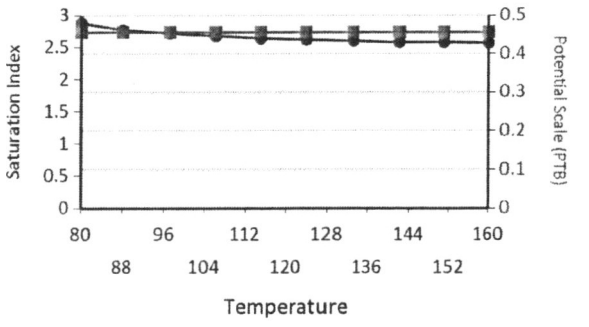
Calcium Carbonate



Barium Sulfate



Iron Sulfide



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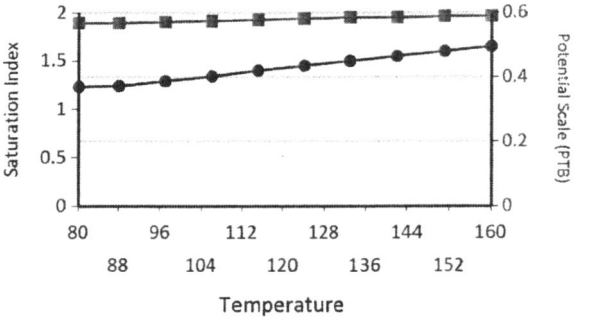
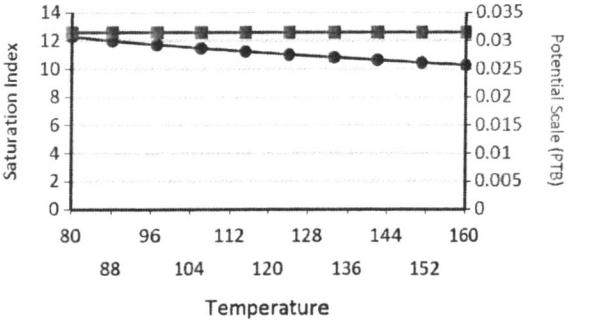
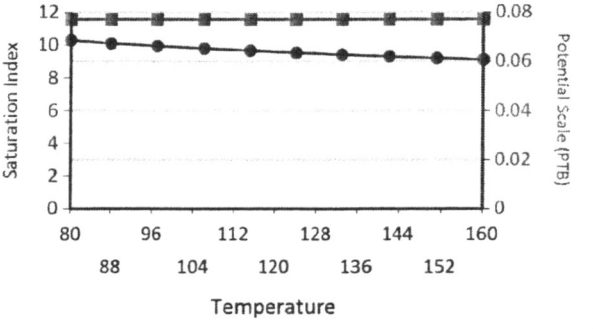
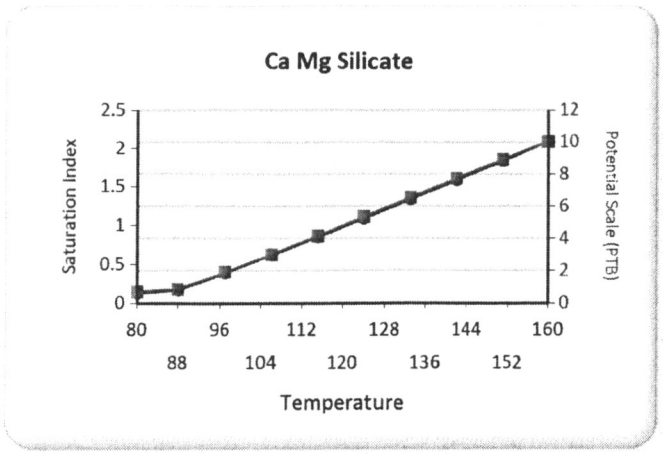


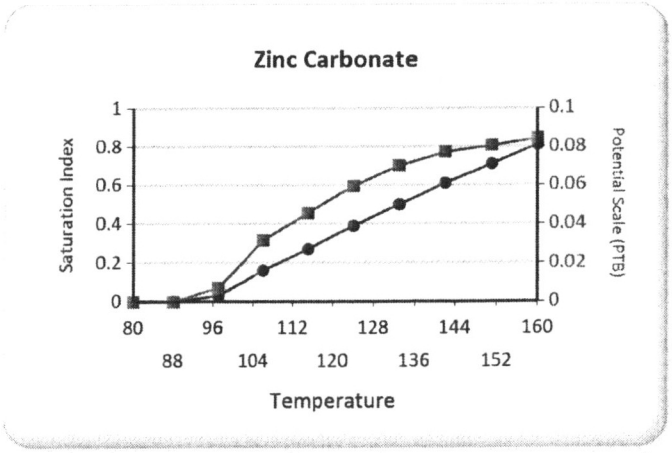
Lead Sulfide



Zinc Sulfide




Ca Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
2.5
2
1.5
1
0.5
0
12
10
8
6
4
2
0
80
88
96
104
112
120
128
136
144
152
160


Zinc Carbonate
Saturation Index
Potential Scale (PTB)
Temperature
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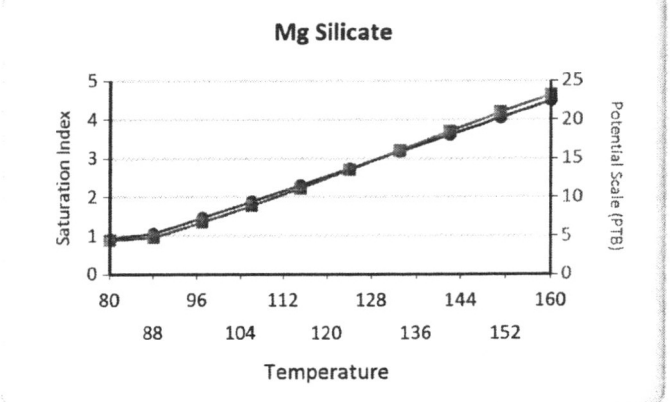
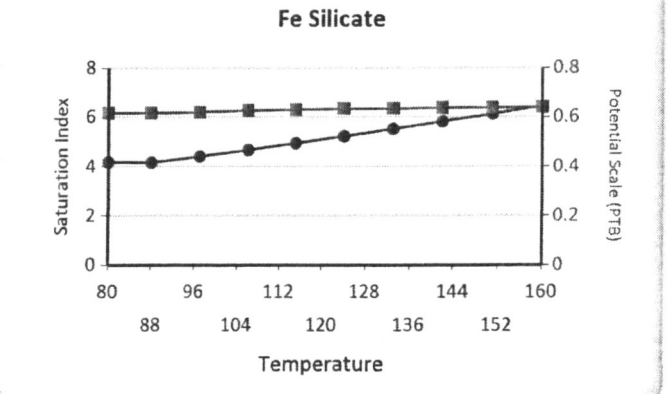
0.8
0.6
0.4
0.2
0
0.1
0.08
0.06
0.04
0.02
0
80
88
96
104
112
120
128
136
144
152
160


Mg Silicate
Saturation Index
Potential Scale (PTB)
Temperature
5
4
3
2
1
0
25
20
15
10
5
0
80
88
96
104
112
120
128
136
144
152
160


Fe Silicate
Saturation Index
Potential Scale (PTB)
Temperature
8
6
4
2
0
0.8
0.6
0.4
0.2
0
80
88
96
104
112
120
128
136
144
152
160

September 14, 2015

Gary Wang
Mail Code: 8ENF-UFO
US EPA Region 8
1595 Wyncoop Street
Denver, CO 80202-1129

RE: EPA AREA PERMIT NO. UT2736-04494
Mechanical Integrity Test
Standard Five year retesting for Ute Tribal 20-13

Mr. Breffle:
The enclose Mechanical Integrity Test was performed on the above referenced well on September 8, 2015. This MIT was performed because the well was due for the regular five year Mechanical Integrity Test.

If you need any more information please call at (435) 722-5302.

Sincerely,
Petroglyph Operating Co., Inc.

Rodrigo Jurado
Regulatory Compliance Specialist

Encl: MIT for the Ute Tribal 20-13

U2 Entered
Date 10/1/15
Initial DB

TAB	GREEN	BLUE	CBI
		2	

Mechanical Integrity Test
Tubing/Casing Annulus Pressure Test

U.S. Environmental Protection Agency
Underground Injection Control Program
1595 Wynkoop Street, Denver, CO 80202

EPA Witness: _____ Date: 9 / 8 / 15

Test conducted by: CHAD STEVENSON

Others present: _____

Well Name: 20-13 Type: ER SWD **Status:** AC TA UC

Field: ANTELOPE CREEK

Location: 20-13 Sec: ____ T ____ N / S R ____ E / W County: DUCHESNE State: UT

Operator: PETROGLYPH ENERGY

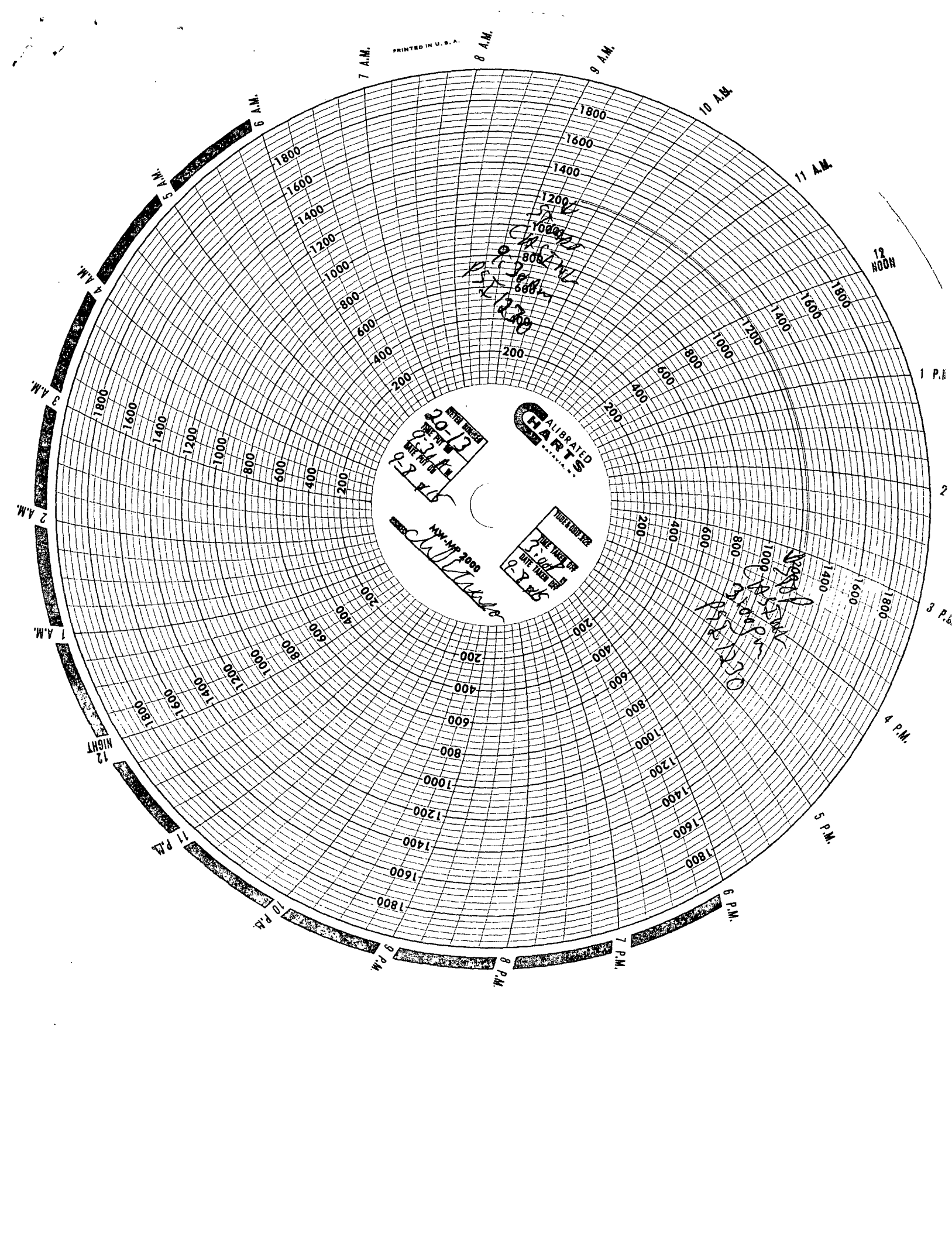
Last MIT: / / **Maximum Allowable Pressure:** _____ **PSIG**

Regularly scheduled test? [X] Yes [ ] No
Initial test for permit? [ ] Yes [ ] No
Test after well rework? [ ] Yes [ ] No

Well injecting during test? If Yes, rate: 2 **bpd**
Pre-test annulus pressure: _____ **psig**

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING		**PRESSURE RECORD**	
Initial Pressure	1732 psig	psig	psig
End of test pressure	1732 psig	psig	psig
CASING / TUBING ANNULUS		**PRESSURE RECORD**	
0 minutes	1230 psig	psig	psig
5 minutes	1230 psig	psig	psig
10 minutes	1230 psig	psig	psig
15 minutes	1230 psig	psig	psig
20 minutes	1230 psig	psig	psig
25 minutes	1230 psig	psig	psig
30 minutes	1230 psig	psig	psig
3 1/2 Hours ~~minutes~~	1230 psig	psig	psig
_____ minutes	psig	psig	psig
RESULT	[ ] Pass [ ] Fail	[ ] Pass [ ] Fail	[ ] Pass [ ] Fail

Does the annulus pressure build back up after the test ? **If Yes,** _____ **psig.**


PRINTED IN U. S. A.
CALIBRATED CHARTS
BATAVIA, N.Y.
METER NUMBER
TUBE PUT ON
DATE PUT ON
TUBE & ORIFICE SIZE
TUBE TAKEN OFF
DATE TAKEN OFF
MW-MP 2000
12 NOON
1 P.M.
2
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 NIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
9 A.M.
10 A.M.
11 A.M.

OMB No. 2040-0042 Approval Expires 12/31/2011

EPA

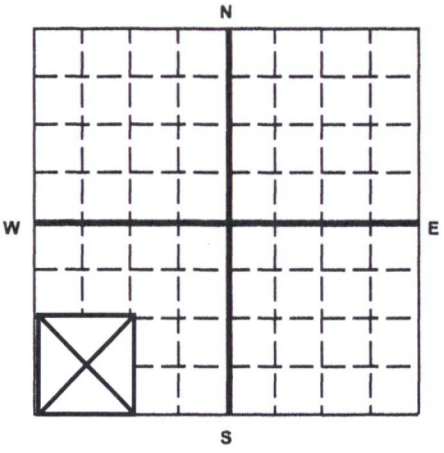
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-04494

Surface Location Description
[ ] 1/4 of [ ] 1/4 of [SW] 1/4 of [SW] 1/4 of Section [20] Township [5S] Range [3W]

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location [700] ft. frm (N/S) [S] Line of quarter section
and [700] ft. from (E/W) [W] Line of quarter section.

WELL ACTIVITY	TYPE OF PERMIT
[ ] Brine Disposal	[ ] Individual
[X] Enhanced Recovery	[X] Area
[ ] Hydrocarbon Storage	Number of Wells [111]

Lease Name [Ute Indian Tribe] Well Number [UTE TRIBAL 20-13]

	INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January 13	1808	1842	83		0	0
February 13	1862	1902	265		0	0
March 13	1828	1869	110		0	0
April 13	1905	1930	224		0	0
May 13	1890	1940	129		0	0
June 13	1902	1933	129		0	0
July 13	1866	1931	128		0	0
August 13	1895	1937	238		0	0
September 13	1860	1939	106		0	0
October 13	1884	1925	191		0	0
November 13	1878	1900	331		0	0
December 13	1887	1902	279		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		2/11/2014

EPA Form 7520-11 (Rev. 12-08)

TAB GREEN WHITE OBL

U2 Entered
Date 3/2/14
Initial

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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Units of Measurement: **Standard**

Water Analysis Report

Production Company: **PETROGLYPH ENERGY INC**
Well Name: **UTE TRIBAL 20-13 INJ**
Sample Point: **Wellhead**
Sample Date: **1/8/2014**
Sample ID: **WA-263012**

Sales Rep: **James Patry**
Lab Tech: **Gary Winegar**

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics	
Test Date:	1/15/2014
System Temperature 1 (°F):	180
System Pressure 1 (psig):	1300
System Temperature 2 (°F):	60
System Pressure 2 (psig):	15
Calculated Density (g/ml):	1.006
pH:	8.40
Calculated TDS (mg/L):	12684.17
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	0.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	4509.74	Chloride (Cl):	6000.00
Potassium (K):	65.00	Sulfate (SO_4):	165.00
Magnesium (Mg):	23.00	Bicarbonate (HCO_3):	1830.00
Calcium (Ca):	52.00	Carbonate (CO_3):	
Strontium (Sr):	5.00	Acetic Acid (CH_3COO)	
Barium (Ba):	7.00	Propionic Acid (C_2H_5COO)	
Iron (Fe):	3.20	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.42	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.03	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.24	Silica (SiO_2):	23.54

Notes:
B=5 Al=0 Li=.99

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	1.46	39.93	1.82	4.10	0.00	0.00	2.02	2.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	157.00	1.46	39.82	1.68	4.08	0.00	0.00	2.09	2.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86.00	300.00	1.48	40.20	1.55	4.05	0.00	0.00	2.16	2.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	443.00	1.51	40.62	1.44	4.01	0.00	0.00	2.23	2.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	585.00	1.54	41.05	1.34	3.97	0.00	0.00	2.29	2.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126.00	728.00	1.57	41.49	1.25	3.93	0.00	0.00	2.36	2.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	871.00	1.60	41.92	1.18	3.89	0.00	0.00	2.42	2.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	1014.00	1.65	42.34	1.12	3.84	0.00	0.00	2.48	2.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166.00	1157.00	1.69	42.74	1.06	3.80	0.00	0.00	2.54	2.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00	1300.00	1.74	43.12	1.02	3.76	0.00	0.00	2.60	2.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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Vernal, UT 84078

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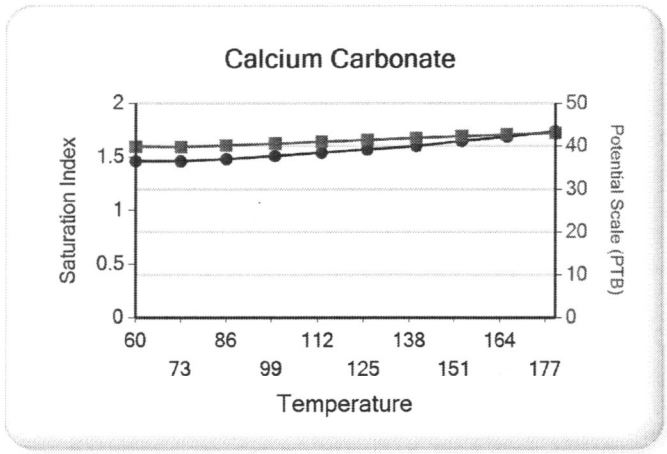
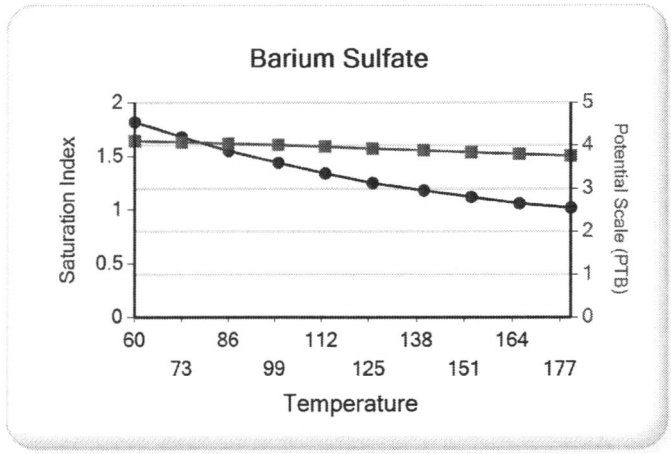
Water Analysis Report

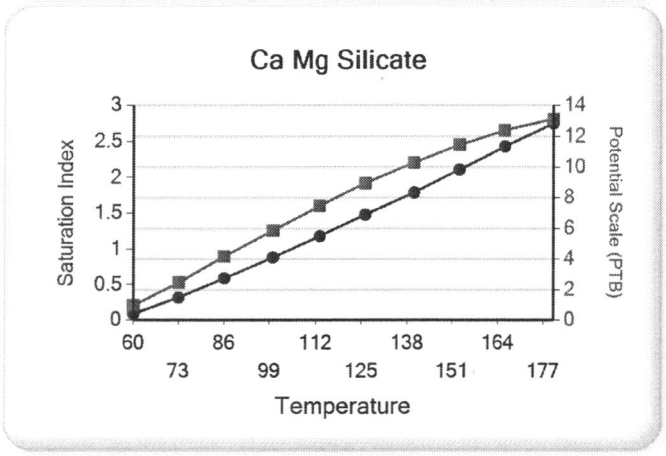
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	0.11	0.00	0.00	0.53	3.87	0.09	0.97	7.05	2.47
73.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.17	0.00	0.00	1.00	6.65	0.32	2.46	7.25	2.48
86.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.21	0.00	0.00	1.53	9.74	0.59	4.19	7.53	2.48
100.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.78	0.23	0.00	0.00	2.08	12.74	0.88	5.87	7.83	2.48
113.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.25	0.00	0.00	2.64	15.64	1.18	7.47	8.16	2.48
126.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.26	0.00	0.00	3.20	18.38	1.48	8.96	8.50	2.49
140.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25	0.27	0.00	0.00	3.77	20.94	1.79	10.30	8.86	2.49
153.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	0.27	0.00	0.00	4.33	23.21	2.11	11.45	9.23	2.49
166.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.52	0.27	0.00	0.00	4.90	25.09	2.43	12.39	9.61	2.49
180.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64	0.28	0.00	0.00	5.46	26.51	2.75	13.13	9.99	2.49

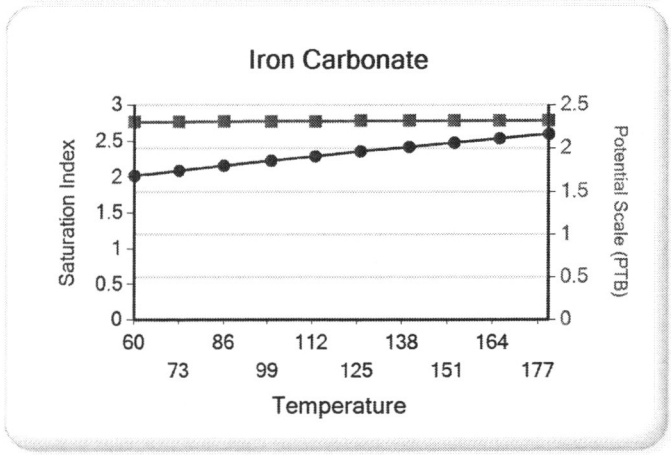
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate









Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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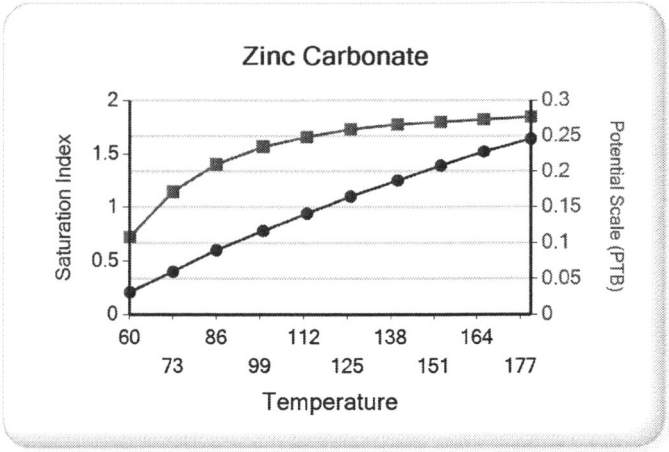
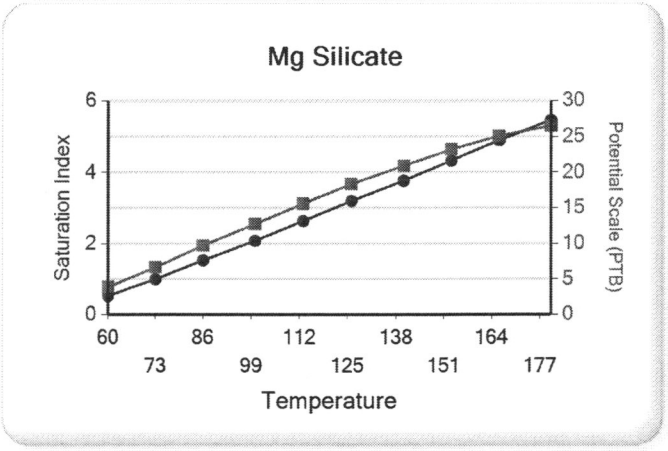
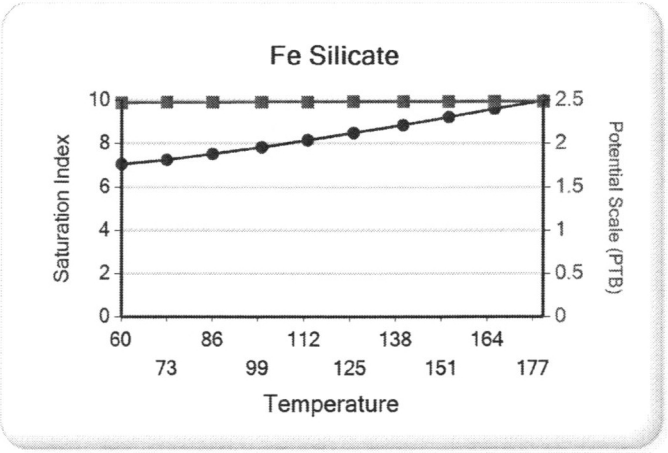
Water Analysis Report







UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466

NOV 17 2000

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

Re: AUTHORIZATION TO COMMENCE INJECTION
Ute Tribal #20-13 (UT04494)
Antelope Creek Field
EPA AREA PERMIT UT2736-00000
Duchesne County, Utah

Dear Mr. Safford:

Thank you for submitting information pertaining to Ute Tribal #20-13 to the Environmental Protection Agency (EPA) Region VIII Groundwater Program. Requirements of UIC Area Permit UT2736-00000 Part II Sections (C)(2) "Prior To Commencing Injection" required submittal of the following information:

1. Well Rework Record (*EPA Form 7520-12*) with after conversion well schematic; and

2. successfully run Mechanical Integrity Test (MIT) with pressure chart; and

3. run injection zone fluid pore pressure survey.

All required information has been submitted, and has been reviewed and approved by the EPA. Petroglyph has complied with all pertinent conditions of UIC Area Permit UT2736-00000 Part II Section (C)(2). Therefore, effective upon your receipt of this letter, Administrative approval hereby is granted for injection into the Ute Tribal #20-13 under the conditions of UIC Permit Modification for Conversion of Additional Well to Area Permit UT2736-00000, dated June 9,1999. The Director has determined, according to Part II, A. (Well Conversion/Construction Requirements), 5. (Injection Pressure Limitation) that the **maximum surface injection pressure for the Ute Tribal #20-13 shall not exceed 1974 psig.**

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUI
DENVER, CO 80202-

Scan under
UT20736-04494
Authorization to Inject-
Final 11/17/2000

NOV 17 2000

Ref: 8P-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Company, Inc.
P.O. Box 607
Roosevelt, UT 84066

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Antelope Creek Field
EPA AREA PERMIT UT2736-00000
Duchesne County, Utah

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Please be reminded that it is the responsibility of the permittee to be aware of, and to comply with, all conditions of the Permit. Effective upon receipt of this letter, EPA administration of this well is transferred to Mr. Al Craver, Compliance Officer in the Office of Enforcement, Compliance, and Environmental Justice Technical Enforcement Program, who is your point of contact for routine compliance matters and reports.

Please send all reporting forms and other required correspondence to Mr. Craver at the address listed below, referencing **EPA WELL ID: UT04494** on all reports and correspondence.

Mr. Al Craver,
Technical Enforcement Program, Mail Code 8ENF-T
U.S. Environmental Protection Agency
999 18th Street, Suite 300
Denver, Colorado, USA, 80202-2466

If you have any questions concerning this authorization or the Permit, please contact Mr. Dan Jackson of my staff at 303.312.6155 or Mr. Craver at 303.312.7821.

Sincerely,

D. Edwin Hogle
Director
Ground Water Program

cc: Mr. Ronald McCook, Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Mr. Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Gil Hunt
State of Utah Natural Resources
Division of Oil, Gas, and Mining

Mr. Jerry Kenczka
BLM - Vernal District Office

Is your RETURN ADDRESS completed on the reverse side?

SENDER: 11/17/00 CW 3866C NOV 17 2000

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "*Return Receipt Requested*" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

UTE TRIBAL #20-13 (UTO494)

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. Micheal Safford
Operations Coordinator
Petroglyph Operating Co., Inc.
P.O. Box 607
Roosevelt, UT 84066

4a. Article Number
Z 159 952 243

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
11-20-00

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*
reid 26

6. Signature: *(Addressee or Agent)*
X

NOV 27 2000

PS Form **3811**, December 1994 102595-97-B-0179 Domestic Return Receipt

Thank you for using Return Receipt Service.

Z 159 952 243

US Postal Service 11/17/00 CW 3866C

Receipt for Certified Mail

No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to
Mr. Micheal Safford
Street & Number
Operations Coordinator
Petroglyph Operating Co., Inc.
P.O. Box 607
Roosevelt, UT 84066

Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$

Postmark or Date

PS Form **3800**, April 1995